

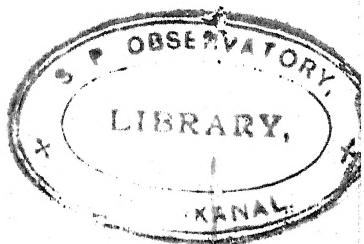
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OSMANIA UNIVERSITY, HYDERABAD.

PUBLICATIONS
OF THE
NIZAMIAH OBSERVATORY.

VOLUME XIII. PART 1.

UNDER THE DIRECTION OF
T. P. BHASKARAN, M.A., F.R.A.S.



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PUBLICATIONS OF THE NIZAMIAH OBSERVATORY.

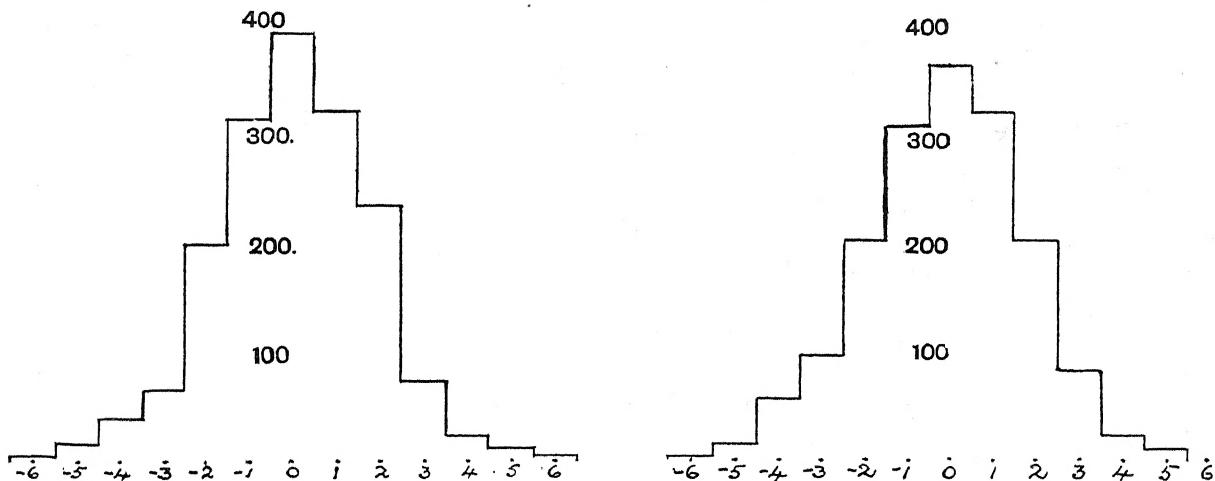
VOL. XIII. PART 1.

REVISED VALUES OF THE CONSTANTS OF PLATES TAKEN FOR THE ASTROGRAPHIC CATALOGUE, ZONES $+39^{\circ}$ TO $+36^{\circ}$.

THE measures of the rectangular Co-ordinates of star images on the Hyderabad plates in the "Carte du Ciel" Zones $+39^{\circ}$ to $+36^{\circ}$ have been published in the four volumes of the Hyderabad Astrographic Catalogue, Vols. IX. to XII. At the heading of each plate are given the provisional values of the Constants A, B, C, D, E, F required for computing the standard Co-ordinates (ξ, η) of the stars from the printed rectangular Co-ordinates (x, y); the formulae adopted being

$$\begin{aligned}\xi &= x - 13 - Ax - By - C, \\ \eta &= y - 13 - Dx - Ey - F.\end{aligned}$$

The Constants were derived from a comparison of the measures of the *étoiles de repère* on the Hyderabad plates with the positions given in the Lund A.G. Catalogue. The Lund observations were made mostly between 1880 and 1890; and thus there is an interval of nearly forty-five years between these observations and the epoch of the photographs of the Hyderabad series. During the progress of



the work it was noticed that Prager's Catalogue¹ contains very recent positions of a good number of the reference stars, and it was considered desirable to revise the computation of the plate Constants using the positions in that Catalogue. The revised values of the Constants are given in the following pages. The residuals $\Delta\alpha, \Delta\delta$ are, except in the case of stars of large proper motion, throughout very small—much smaller than those obtained from the Lund positions. The mean deviation of the residuals for stars in the first two hours of R.A. derived from both sets of reductions are given below for comparison.

	$\Delta\alpha$	$\Delta\delta$	No. of Stars.
Lund	$1.^{\circ}34$	$0.^{\circ}79$	1657
Prager	$0.^{\circ}54$	$0.^{\circ}45$	1710

The distribution of the residuals for the reference stars in R.A. 0^{h} to 6^{h} is exhibited in the diagram.

¹ *Veröffentlichungen der Universitätssternwarte zu Babelsberg*, Band iv.

The tables in the following pages are self-explanatory; it is suggested that these revised values may be substituted in the place of those printed at the heading of the measures of each plate in the published volumes of the Astrographic Catalogue.

Differences (Hyderabad—Prager) of over $1''$.8 in either Co-ordinate are given in Table V.; and the last section contains brief notes on some of the stars with abnormal residuals.

T. P. BHASKARAN.

NIZAMIAH OBSERVATORY,
HYDERABAD (DECCAN),
1942 *August* 21.

TABLE I.—PROVISIONAL CONSTANTS OF PLATES. ZONE $+39^{\circ}$.

R.A.	Plate No.	A	B	C	D	E	F
h m							
0 5	2646	+0.00101	-0.00410	-0.1773	+0.00395	+0.00088	+0.3441
0 15	2647	+0.00082	-0.00446	-0.3462	+0.00438	+0.00067	+0.2366
0 25	2640	+0.00085	-0.00036	-0.1418	+0.00048	+0.00082	+0.0601
0 35	2648	+0.00073	-0.00305	-0.1927	+0.00302	+0.00057	+0.3716
0 45	2666	+0.00092	-0.00273	-0.2967	+0.00276	+0.00082	+0.2070
0 55	2641	+0.00074	-0.00011	-0.2959	-0.00001	+0.00083	+0.4414
1 5	2650	+0.00083	-0.00126	-0.2965	+0.00133	+0.00056	+0.4006
1 15	2651	+0.00093	-0.00056	-0.1570	+0.00056	+0.00093	+0.5354
1 25	2642	+0.00088	-0.00615	-0.2724	+0.00604	+0.00068	+0.0976
1 35	2652	+0.00080	-0.00164	-0.2333	+0.00160	+0.00072	+0.2359
1 45	2653	+0.00084	-0.00337	-0.0919	+0.00348	+0.00076	+0.3028
1 55	2654	+0.00091	-0.00392	-0.1971	+0.00396	+0.00076	+0.4985
2 5	2655	+0.00101	+0.00738	-0.3491	-0.00742	+0.00090	+0.4613
2 15	2660	+0.00076	+0.00270	-0.1906	-0.00272	+0.00068	-0.0567
2 25	2657	+0.00087	-0.00184	-0.2222	+0.00186	+0.00078	+0.2701
2 35	2661	+0.00084	-0.00050	-0.2842	+0.00045	+0.00076	+0.2188
2 45	2662	+0.00081	-0.00023	-0.2792	+0.00015	+0.00090	+0.3142
2 55	2658	+0.00094	-0.00097	-0.2679	+0.00086	+0.00071	+0.3576
3 5	2663	+0.00100	+0.00003	-0.3488	+0.00014	+0.00080	+0.3328
3 15	2664	+0.00093	+0.00285	-0.2417	-0.00309	+0.00071	+0.3336
3 25	2669	+0.00078	+0.00337	-0.5078	-0.00342	+0.00070	+0.4693
3 35	2670	+0.00081	+0.00144	-0.3739	-0.00154	+0.00060	+0.3276
3 45	2681	+0.00082	+0.00163	-0.2019	-0.00193	+0.00074	+0.1517
3 55	2682	+0.00092	-0.00448	-0.2005	+0.00427	+0.00069	+0.2520
4 5	2683	+0.00085	+0.00271	-0.1772	-0.00265	+0.00067	+0.3224
4 15	2684	+0.00078	-0.00143	-0.2648	+0.00126	+0.00078	+0.2062
4 25	2689	+0.00084	+0.00040	-0.2435	-0.00064	+0.00073	+0.4045
4 35	2685	+0.00083	+0.00088	-0.3413	-0.00076	+0.00073	+0.3873
4 45	2694	+0.00084	+0.00204	-0.2444	-0.00224	+0.00091	+0.3704
4 55	2686	+0.00089	+0.00034	-0.3300	-0.00045	+0.00080	+0.4559
5 5	2690	+0.00080	-0.00295	-0.2896	+0.00284	+0.00073	+0.1832
5 15	2695	+0.00089	+0.00053	-0.1890	-0.00065	+0.00075	+0.2756
5 25	2696	+0.00076	+0.00394	-0.4572	-0.00394	+0.00082	+0.3494
5 35	2701	+0.00087	-0.00285	-0.2417	+0.00275	+0.00074	+0.0274
5 45	2691	+0.00099	+0.00231	+0.1106	-0.00271	+0.00069	+0.2328
5 55	2697	+0.00083	-0.00123	-0.3367	+0.00111	+0.00085	+0.3401
6 5	2704	+0.00091	+0.00106	-0.1951	-0.00113	+0.00083	+0.4376
6 15	2698	+0.00089	+0.00069	-0.2489	-0.00069	+0.00102	+0.3776
6 25	2705	+0.00082	+0.00705	-0.5701	-0.00730	+0.00083	+0.3132
6 35	2692	+0.00072	+0.00415	+0.3647	-0.00432	+0.00070	+0.3165
6 45	2706	+0.00085	+0.00100	-0.3361	-0.00097	+0.00094	+0.2211
6 55	2712	+0.00077	+0.00197	-0.3517	-0.00203	+0.00088	+0.3331
7 5	2707	+0.00093	+0.00334	-0.3947	-0.00325	+0.00070	+0.3383
7 15	2713	+0.00087	+0.00231	-0.2626	-0.00236	+0.00072	+0.5275
7 25	2718	+0.00090	+0.00233	-0.3529	-0.00254	+0.00086	+0.2750
7 35	2708	+0.00100	+0.00431	-0.4177	-0.00436	+0.00072	+0.4593
7 45	2719	+0.00100	+0.00276	-0.1779	-0.00277	+0.00089	+0.3934
7 55	2720	+0.00075	+0.00028	-0.1890	-0.00029	+0.00070	+0.6622
8 5	2540	+0.00102	+0.00046	-0.3006	-0.00040	+0.00089	+0.3325
8 15	2542	+0.00087	-0.00116	-0.2836	+0.00130	+0.00086	+0.4421
8 25	2546	+0.00103	+0.00177	-0.3684	-0.00185	+0.00087	+0.4394
8 35	2547	+0.00074	-0.00809	-0.1639	+0.00816	+0.00076	+0.3414
8 45	2543	+0.00075	+0.00460	-0.3398	-0.00442	+0.00060	+0.6102
8 55	2541	+0.00094	-0.00089	-0.3162	+0.00110	+0.00080	+0.5310
9 5	2548	+0.00077	+0.00050	-0.2305	-0.00045	+0.00064	+0.3152
9 15	2544	+0.00086	+0.00263	-0.3155	-0.00250	+0.00053	+0.4151
9 25	2549	+0.00094	-0.00444	-0.3036	+0.00434	+0.00066	+0.2675
9 35	2553	+0.00081	+0.00092	+0.7735	-0.00082	+0.00080	+0.4809
9 45	2545	+0.00078	+0.00235	-0.3794	-0.00243	+0.00076	+0.4193
9 55	3330	+0.00078	+0.00130	-0.3496	-0.00156	+0.00097	+0.3487
10 5	2554	+0.00098	+0.00028	-0.1702	-0.00012	+0.00073	+0.3008
10 15	2555	+0.00077	-0.00020	-0.0498	+0.00022	+0.00069	+0.2956
10 25	2551	+0.00099	-0.00686	-0.2491	+0.00673	+0.00076	+0.4105
10 35	2556	+0.00097	+0.00104	-0.3301	-0.00102	+0.00064	+0.4256
10 45	2557	+0.00078	+0.00018	-0.2984	-0.00005	+0.00057	+0.3473
10 55	2552	+0.00070	+0.00051	-0.0674	-0.00032	+0.00064	+0.3953
11 5	2754	+0.00083	-0.00242	-0.4915	+0.00211	+0.00086	+0.1391
11 15	2561	+0.00091	-0.00052	-0.2977	+0.00065	+0.00084	+0.5254
11 25	2562	+0.00101	-0.00562	-0.1576	+0.00560	+0.00091	+0.3794
11 35	2570	+0.00090	+0.00096	-0.1156	-0.00090	+0.00093	+0.5063
11 45	2872	+0.00097	-0.00075	-0.3394	+0.00095	+0.00088	+0.3823
11 55	2567	+0.00084	-0.00500	-0.1372	+0.00481	+0.00088	+0.4145
12 5	2571	+0.00095	-0.00350	-0.2353	+0.00356	+0.00090	+0.2611
12 15	2585	+0.00080	-0.00655	-0.1355	+0.00653	+0.00083	+0.2445
12 25	2587	+0.00083	-0.00401	-0.2021	+0.00398	+0.00087	+0.1448

TABLE I.—PROVISIONAL CONSTANTS OF PLATES. ZONE +39°.

R.A.	Plate No.	A	B	C	D	E	F
h m							
12 35	2858	+0.00084	-0.00236	-0.2433	+0.00235	+0.00068	+0.3302
12 45	2591	+0.00085	-0.00567	-0.2708	+0.00566	+0.00079	+0.3055
12 55	2588	+0.00065	-0.00096	-0.0614	+0.00095	+0.00058	+0.6074
13 5	2592	+0.00109	-0.00758	-0.2043	+0.00762	+0.00071	+0.3825
13 15	2589	+0.00078	-0.00724	-0.1854	+0.00714	+0.00077	+0.1962
13 25	2594	+0.00096	-0.00391	-0.1341	+0.00388	+0.00078	+0.4500
13 35	2593	+0.00063	-0.00322	-0.0887	+0.00321	+0.00072	+0.3454
13 45	2590	+0.00110	-0.00632	+0.0489	+0.00625	+0.00091	+0.3595
13 55	2595	+0.00090	-0.00416	+0.0875	+0.00423	+0.00076	+0.4579
14 5	2597	+0.00072	-0.00447	-0.1974	+0.00455	+0.00063	+0.3092
14 15	2864	+0.00095	-0.01030	-0.0736	+0.01029	+0.00051	+0.3614
14 25	2598	+0.00069	-0.00829	-0.1319	+0.00835	+0.00071	+0.1485
14 35	2599	+0.00074	-0.00078	-0.2725	+0.00092	+0.00065	+0.3696
14 45	2600	+0.00075	-0.00688	-0.1395	+0.00709	+0.00064	+0.3870
14 55	2601	+0.00067	-0.00466	-0.0007	+0.00476	+0.00062	+0.4119
15 5	2879	+0.00052	-0.00862	-0.1212	+0.00861	+0.00070	+0.3239
15 15	2883	+0.00058	-0.00047	-0.4991	+0.00049	+0.00066	+0.4491
15 25	2880	+0.00076	-0.00400	-0.1577	+0.00374	+0.00057	+0.2297
15 35	2881	+0.00064	-0.00468	-0.2695	+0.00480	+0.00059	+0.3345
15 45	2884	+0.00073	-0.00409	-0.2624	+0.00429	+0.00058	+0.3650
15 55	2882	+0.00062	-0.00453	-0.3821	+0.00427	+0.00070	+0.3556
16 5	2885	+0.00063	-0.00366	-0.3190	+0.00381	+0.00062	+0.6268
16 15	2890	+0.00076	-0.00223	-0.4323	+0.00209	+0.00073	+0.6516
16 25	2886	+0.00071	-0.00526	+0.4514	+0.00522	+0.00074	+0.6064
16 35	2891	+0.00071	-0.00643	-0.0584	+0.00642	+0.00044	+0.3121
16 45	2892	+0.00076	-0.00516	+0.0281	+0.00504	+0.00064	+0.2962
16 55	2887	+0.00086	-0.00629	-0.1780	+0.00609	+0.00058	+0.2747
17 5	2893	+0.00085	-0.00581	-0.2682	+0.00563	+0.00073	+0.1831
17 15	2888	+0.00053	-0.00711	-0.1484	+0.00723	+0.00046	+0.3093
17 25	2896	+0.00070	-0.00558	-0.2763	+0.00564	+0.00059	+0.0773
17 35	2899	+0.00081	-0.00412	-0.6257	+0.00406	+0.00071	+0.1541
17 45	2894	+0.00083	-0.00808	-0.1959	+0.00797	+0.00063	+0.4366
17 55	2901	+0.00085	-0.00808	-0.4379	+0.00813	+0.00076	+0.3879
18 5	2897	+0.00075	-0.00189	-0.3665	+0.00166	+0.00071	+0.4331
18 15	2902	+0.00076	-0.00445	-0.2697	+0.00447	+0.00071	+0.4374
18 25	2898	+0.00087	-0.00830	-0.2223	+0.00796	+0.00078	+0.4125
18 35	2900	+0.00075	-0.00215	-0.2451	+0.00245	+0.00069	+0.4138
18 45	2903	+0.00078	-0.00546	-0.0277	+0.00538	+0.00094	+0.5683
18 55	2904	+0.00080	-0.00490	-0.4891	+0.00491	+0.00088	+0.4806
19 5	2608	+0.00094	-0.00481	-0.0170	+0.00486	+0.00083	+0.3212
19 15	2610	+0.00113	+0.00021	-0.3534	-0.00019	+0.00091	+0.1616
19 25	2617	+0.00063	-0.00778	+0.0193	+0.00774	+0.00075	+0.2023
19 35	2618	+0.00080	-0.00387	-0.3068	+0.00405	+0.00081	+0.2240
19 45	2607	+0.00077	-0.00401	-0.1810	+0.00400	+0.00098	+0.1437
19 55	2611	+0.00102	-0.00435	-0.4184	+0.00450	+0.00102	+0.3311
20 5	2623	+0.00083	-0.00455	-0.9650	+0.00447	+0.00081	+0.2382
20 15	2616	+0.00086	-0.00364	-0.1842	+0.00374	+0.00093	+0.2072
20 25	2619	+0.00082	-0.00386	-0.2768	+0.00397	+0.00105	+0.3824
20 35	2612	+0.00074	-0.00104	-0.3233	+0.00119	+0.00082	+0.2981
20 45	2632	+0.00077	-0.00733	-0.2045	+0.00736	+0.00080	+0.2128
20 55	2628	+0.00084	-0.00102	-0.5342	+0.00094	+0.00076	+0.2242
21 5	2633	+0.00089	-0.00643	-0.2164	+0.00643	+0.00084	+0.0757
21 15	2620	+0.00083	-0.00359	-0.4673	+0.00375	+0.00074	+0.2822
21 25	2630	+0.00099	-0.00618	-0.4736	+0.00597	+0.00083	+0.1065
21 35	2625	+0.00089	-0.00650	-0.2802	+0.00649	+0.00091	+0.3253
21 45	2614	+0.00060	-0.00329	-0.3324	+0.00350	+0.00066	+0.3740
21 55	2621	+0.00090	-0.00533	-0.2059	+0.00542	+0.00078	+0.1132
22 5	3173	+0.00073	-0.01188	-0.0902	+0.01181	+0.00074	+0.0482
22 15	2627	+0.00076	-0.00345	-0.3901	+0.00354	+0.00067	+0.3160
22 25	2622	+0.00104	-0.00766	-0.2216	+0.00781	+0.00080	+0.3165
22 35	2631	+0.00085	-0.01081	-0.2783	+0.01059	+0.00083	+0.0484
22 45	2637	+0.00086	-0.00050	-0.2284	+0.00065	+0.00071	+0.2201
22 55	2635	+0.00094	-0.00056	-0.3566	+0.00043	+0.00085	+0.3172
23 5	2643	+0.00096	-0.00264	-0.1386	+0.00279	+0.00095	+0.2012
23 15	2638	+0.00102	-0.00380	-0.2778	+0.00391	+0.00067	+0.3313
23 25	2636	+0.00076	-0.00202	-0.2350	+0.00214	+0.00082	+0.2119
23 35	2644	+0.00100	+0.00130	-0.2564	+0.00143	+0.00082	+0.5182
23 45	2665	+0.00073	-0.00419	-0.2396	+0.00423	+0.00090	+0.3580
23 55	2639	+0.00093	-0.00217	-0.2831	+0.00194	+0.00103	+0.3762

TABLE II.—PROVISIONAL CONSTANTS OF PLATES. ZONE $+38^{\circ}$.

R.A.	Plate No.	A	B	C	D	E	F
h m							
0 0	3197	+0.00079	-0.00020	-0.2277	+0.00029	+0.00069	+0.2736
0 10	2790	+0.00062	-0.00315	-0.1204	+0.00306	+0.00095	+0.1031
0 20	2672	+0.00094	-0.00544	-0.0736	+0.00543	+0.00089	+0.2738
0 30	2792	+0.00083	+0.00110	-0.3912	-0.00111	+0.00087	+0.5952
0 40	2798	+0.00086	-0.00534	-0.1551	+0.00532	+0.00089	+0.2913
0 50	2673	+0.00088	-0.00239	-0.2446	+0.00244	+0.00093	+0.4676
1 0	2793	+0.00080	+0.00195	-0.1910	-0.00187	+0.00099	+0.5973
1 10	2674	+0.00112	-0.00058	-0.4076	+0.00049	+0.00089	+0.3973
1 20	2800	+0.00075	-0.00350	-0.3353	+0.00359	+0.00077	+0.3218
1 30	2811	+0.00104	-0.00214	-0.3100	+0.00207	+0.00093	+0.3910
1 40	2675	+0.00085	-0.00138	-0.4255	+0.00113	+0.00076	+0.3092
1 50	2678	+0.00091	+0.00174	-0.2706	-0.00186	+0.00078	+0.1844
2 0	2667	+0.00091	-0.00232	-0.4854	+0.00213	+0.00077	+0.3192
2 10	2702	+0.00080	+0.00036	-0.1486	-0.00047	+0.00090	+0.2399
2 20	2676	+0.00084	-0.00117	-0.1573	+0.00118	+0.00074	+0.4291
2 30	2679	+0.00099	-0.00343	-0.3608	+0.00345	+0.00086	+0.1896
2 40	2699	+0.00063	+0.00062	-0.3026	-0.00081	+0.00085	+0.1571
2 50	2668	+0.00096	+0.00264	-0.2238	-0.00259	+0.00082	+0.2255
3 0	2680	+0.00076	+0.00069	-0.3655	-0.00076	+0.00091	+0.4263
3 10	2700	+0.00070	-0.00455	-0.2845	+0.00470	+0.00092	+0.1347
3 20	2703	+0.00087	-0.00476	-0.1329	+0.00462	+0.00090	+0.3292
3 30	2693	+0.00092	+0.00192	-0.5448	-0.00184	+0.00085	+0.0394
3 40	2687	+0.00090	+0.00200	-0.4888	-0.00200	+0.00087	+0.3654
3 50	2688	+0.00065	+0.00300	-0.2836	-0.00331	+0.00076	+0.3708
4 0	2721	+0.00085	+0.00196	-0.3084	-0.00191	+0.00081	+0.2978
4 10	2723	+0.00079	+0.00006	-0.4813	-0.00010	+0.00088	+0.2752
4 20	2729	+0.00088	+0.00026	-0.1517	-0.00002	+0.00093	+0.2523
4 30	3321	+0.00095	-0.00491	-0.3788	+0.00474	+0.00086	+0.4024
4 40	2722	+0.00086	+0.00452	-0.4460	-0.00453	+0.00092	+0.0565
4 50	2709	+0.00094	-0.00354	-0.3010	+0.00347	+0.00068	+0.1446
5 0	2724	+0.00079	-0.00137	-0.0549	+0.00141	+0.00091	+0.2461
5 10	2715	+0.00092	+0.00169	-0.2871	-0.00165	+0.00087	+0.3172
5 20	2710	+0.00111	+0.00323	-0.4443	-0.00349	+0.00080	+0.3439
5 30	2716	+0.00093	-0.00149	-0.3302	+0.00142	+0.00090	+0.3292
5 40	2717	+0.00085	+0.00158	-0.4206	-0.00162	+0.00106	+0.1911
5 50	2711	+0.00093	+0.00086	-0.5710	-0.00082	+0.00106	+0.2072
6 0	2725	+0.00086	+0.00056	-0.1607	-0.00077	+0.00098	+0.3557
6 10	2836	+0.00079	+0.000633	-0.3229	-0.00649	+0.00064	+0.4403
6 20	2735	+0.00100	+0.00246	-0.0680	-0.00252	+0.00087	+0.3467
6 30	2736	+0.00092	+0.00238	-0.3579	-0.00231	+0.00091	+0.3307
6 40	2732	+0.00092	+0.00396	-0.2190	-0.00379	+0.00086	+0.1493
6 50	2726	+0.00093	+0.00075	-0.2868	-0.00077	+0.00081	+0.2190
7 0	2733	+0.00088	+0.00019	-0.3733	-0.00008	+0.00082	+0.4080
7 10	2743	+0.00089	+0.00010	-0.2523	-0.00025	+0.00095	+0.2734
7 20	2737	+0.00080	+0.00483	+0.0706	-0.00500	+0.00081	+0.3542
7 30	2727	+0.00088	+0.00302	-0.2810	-0.00305	+0.00097	+0.3477
7 40	2734	+0.00096	+0.00394	-0.3653	-0.00412	+0.00093	+0.2639
7 50	2738	+0.00087	+0.00110	-0.4042	-0.00107	+0.00084	+0.4381
8 0	2728	+0.00083	+0.00056	-0.2591	-0.00053	+0.00075	+0.3077
8 10	2739	+0.00078	+0.00444	-0.2581	-0.00443	+0.00083	+0.3052
8 20	2744	+0.00109	+0.00185	-0.5342	-0.00154	+0.00086	+0.1740
8 30	2740	+0.00069	-0.00035	-0.4403	+0.00042	+0.00074	+0.4498
8 40	2742	+0.00109	-0.00049	-0.1982	+0.00049	+0.00075	+0.1624
8 50	2745	+0.00087	+0.00082	-0.2836	-0.00099	+0.00094	+0.2159
9 0	2746	+0.00092	-0.00082	-0.3050	+0.00066	+0.00105	+0.2457
9 10	2747	+0.00081	-0.00015	-0.4244	+0.00025	+0.00085	+0.2780
9 20	2749	+0.00083	+0.00264	-0.1415	-0.00245	+0.00087	+0.4460
9 30	2748	+0.00090	-0.00447	-0.1978	+0.00456	+0.00086	+0.3308
9 40	2750	+0.00082	-0.00262	-0.3419	+0.00243	+0.00095	+0.0518
9 50	2751	+0.00089	-0.00041	-0.1930	+0.00042	+0.00094	+0.1841
10 0	2845	+0.00090	-0.00734	-0.1333	+0.00728	+0.00093	+0.3047
10 10	2846	+0.00068	-0.00907	-0.585	+0.00907	+0.00085	+0.3388
10 20	2752	+0.00091	+0.00011	-0.2780	-0.00009	+0.00077	+0.1795
10 30	2853	+0.00084	-0.00454	-0.2787	+0.00436	+0.00093	+0.2959
10 40	2852	+0.00077	-0.00524	-0.4055	+0.00510	+0.00073	+0.4681
10 50	2854	+0.00093	-0.00079	-0.3577	+0.00078	+0.00083	+0.4371
11 0	2859	+0.00087	-0.00085	-0.2843	+0.00088	+0.00097	+0.4951
11 10	2855	+0.00090	-0.00361	-0.0052	+0.00364	+0.00071	+0.2096
11 20	3327	+0.00072	-0.000358	-0.0152	+0.00354	+0.00063	+0.2662
11 30	2856	+0.00070	-0.000347	-0.2637	+0.00336	+0.00075	+0.2012
11 40	2861	+0.00061	-0.00097	-0.3470	+0.00082	+0.00084	+0.4725
11 50	2857	+0.00065	-0.00221	-0.3158	+0.00215	+0.00058	+0.2228
12 0	2865	+0.00081	-0.00338	-0.1722	+0.00343	+0.00067	+0.4974
12 10	2873	+0.00057	-0.01030	-0.4192	+0.00997	+0.00062	+0.4725
12 20	2866	+0.00069	-0.00297	-0.5221	+0.00275	+0.00065	+0.4108

TABLE II.—PROVISIONAL CONSTANTS OF PLATES. ZONE $+38^{\circ}$.

R.A.	Plate No.	A	B	C	D	E	F
h m							
12 30	2862	+0.00097	-0.00017	-0.2845	-0.00004	+0.00092	+0.5192
12 40	2874	+0.00066	-0.00146	-0.4366	+0.00142	+0.00080	+0.4150
12 50	2863	+0.00089	-0.00382	-0.4069	+0.00398	+0.00060	+0.4013
13 0	2867	+0.00075	-0.00390	-0.2182	+0.00386	+0.00056	+0.4169
13 10	2875	+0.00061	-0.00058	-0.3046	+0.00068	+0.00072	+0.4864
13 20	2869	+0.00054	+0.00022	-0.3574	+0.00001	+0.00058	+0.6148
13 30	2870	+0.00065	-0.00259	-0.3522	+0.00290	+0.00047	+0.4777
13 40	2876	+0.00086	-0.00857	-0.1271	+0.00856	+0.00084	+0.2709
13 50	2889	+0.00075	-0.00206	-0.3816	+0.00209	+0.00074	+0.3871
14 0	2877	+0.00056	-0.00582	-0.3522	+0.00564	+0.00064	+0.2990
14 10	2878	+0.00060	-0.00306	-0.2912	+0.00321	+0.00054	+0.3264
14 20	3364	+0.00088	-0.00138	-0.3150	+0.00120	+0.00070	+0.4066
14 30	3392	+0.00090	-0.00576	-0.4256	+0.00539	+0.00064	+0.2691
14 40	3373	+0.00096	-0.00517	-0.2737	+0.00476	+0.00086	+0.2196
14 50	3374	+0.00093	-0.00230	-0.2882	+0.00230	+0.00081	+0.2297
15 0	3393	+0.00089	-0.00576	-0.2484	+0.00583	+0.00058	+0.3852
15 10	3384	+0.00067	-0.00415	-0.2678	+0.00404	+0.00063	+0.0157
15 20	3394	+0.00074	-0.00276	-0.3102	+0.00270	+0.00068	+0.2728
15 30	3375	+0.00063	-0.00752	-0.0224	+0.00739	+0.00074	+0.1149
15 40	3385	+0.00069	-0.00649	-0.2504	+0.00604	+0.00091	+0.2831
15 50	3395	+0.00095	-0.00516	-0.4466	+0.00526	+0.00084	+0.2330
16 0	3407	+0.00067	-0.00369	-0.2314	+0.00385	+0.00060	+0.4130
16 10	3396	+0.00074	-0.00428	-0.2178	+0.00399	+0.00079	+0.3581
16 20	3376	+0.00087	-0.00850	-0.1066	+0.00834	+0.00071	-0.1311
16 30	3386	+0.00098	-0.00544	-0.0864	+0.00566	+0.00068	+0.0044
16 40	3397	+0.00088	-0.00781	-0.2763	+0.00766	+0.00086	+0.5116
16 50	3377	+0.00075	-0.00510	-0.2516	+0.00520	+0.00072	+0.0596
17 0	3416	+0.00076	-0.00549	-0.2322	+0.00570	+0.00094	+0.3212
17 10	3398	+0.00096	-0.00452	-0.2259	+0.00409	+0.00081	+0.4721
17 20	3437	+0.00077	-0.00561	-0.2115	+0.00571	+0.00089	+0.2688
17 30	3417	+0.00077	-0.00674	-0.2348	+0.00662	+0.00064	+0.1878
17 40	3424	+0.00070	-0.00543	-0.2392	+0.00537	+0.00097	+0.3371
17 50	3434	+0.00075	-0.00576	-0.1960	+0.00578	+0.00082	+0.3747
18 0	3439	+0.00087	-0.00841	-0.2270	+0.00842	+0.00084	+0.1655
18 10	3418	+0.00087	-0.00186	-0.0858	+0.00155	+0.00078	+0.4256
18 20	3425	+0.00092	-0.00938	-0.0618	+0.00915	+0.00072	+0.2629
18 30	3440	+0.00086	-0.01036	-0.2438	+0.01044	+0.00083	+0.3486
18 40	3441	+0.00078	-0.00600	-0.2349	+0.00622	+0.00091	+0.2006
18 50	3442	+0.00075	-0.00621	-0.3787	+0.00622	+0.00066	+0.0892
19 0	2756	+0.00088	-0.00567	-0.1588	+0.00567	+0.00086	+0.2060
19 10	2779	+0.00095	-0.00908	-0.1622	+0.00918	+0.00090	+0.3403
19 20	2773	+0.00082	-0.00691	-0.2180	+0.00704	+0.00081	+0.2573
19 30	2785	+0.00070	-0.00340	-0.1601	+0.00369	+0.00101	+0.2161
19 40	2774	+0.00072	-0.00545	-0.2044	+0.00516	+0.00105	+0.3518
19 50	2757	+0.00082	-0.00662	-0.0835	+0.00639	+0.00080	+0.0920
20 0	2775	+0.00083	-0.00350	-0.2882	+0.00348	+0.00102	+0.4012
20 10	2786	+0.00090	-0.00668	-0.1634	+0.00662	+0.00092	+0.2837
20 20	2760	+0.00072	-0.00910	-0.3327	+0.00913	+0.00106	+0.2153
20 30	2762	+0.00068	-0.00308	-0.2462	+0.00325	+0.00084	+0.2775
20 40	2769	+0.00091	-0.00970	-0.1426	+0.00972	+0.00088	+0.3036
20 50	2763	+0.00063	-0.00478	-0.2124	+0.00468	+0.00081	+0.3669
21 0	3175	+0.00078	-0.00953	-0.1814	+0.00955	+0.00090	-0.0096
21 10	2771	+0.00087	-0.00485	-0.3083	+0.00501	+0.00082	+0.0995
21 20	2776	+0.00076	-0.00565	+0.0330	+0.00560	+0.00097	+0.3918
21 30	2772	+0.00084	-0.00190	-0.1254	+0.00227	+0.00096	+0.2500
21 40	2764	+0.00070	-0.00938	-0.1327	+0.00960	+0.00090	+0.2969
21 50	2777	+0.00077	-0.00600	-0.0957	+0.00577	+0.00086	+0.3838
22 0	2787	+0.00087	-0.00741	-0.2370	+0.00745	+0.00098	+0.1507
22 10	2778	+0.00085	-0.00617	-0.3939	+0.00609	+0.00093	+0.1804
22 20	2780	+0.00081	-0.00184	-0.3001	+0.00178	+0.00073	+0.3587
22 30	2788	+0.00061	-0.00206	-0.6760	+0.00216	+0.00088	+0.1608
22 40	2781	+0.00092	-0.00352	-0.4040	+0.00336	+0.00077	+0.2473
22 50	2782	+0.00080	-0.00192	-0.2043	+0.00196	+0.00090	+0.3797
23 0	2765	+0.00085	-0.00535	-0.0911	+0.00527	+0.00085	+0.1227
23 10	2783	+0.00081	-0.00459	-0.0089	+0.00448	+0.00092	+0.2187
23 20	2789	+0.00092	-0.00001	+0.0202	-0.00002	+0.00082	-0.0149
23 30	2766	+0.00071	-0.00092	-0.314	+0.00101	+0.00083	+0.5322
23 40	2791	+0.00083	-0.00251	-0.1760	+0.00261	+0.00075	+0.2386
23 50	2784	+0.00083	-0.00416	-0.1180	+0.00413	+0.00069	+0.3592

TABLE III.—REVISED CONSTANTS FOR PLATES IN ZONE +37°.

R.A.	Plate No.	A	B	C	D	E	F
h m							
0 5	2797	+.00099	-.00327	-.2660	+.00316	+.00077	+.4472
0 15	2804	+.00091	-.00387	-.3876	+.00359	+.00077	+.5959
0 25	2805	+.00082	-.00109	-.5016	+.00107	+.00083	+.4545
0 35	3174	+.00075	-.00449	-.1354	+.00435	+.00073	+.2229
0 45	2806	+.00096	-.00712	-.3819	+.00699	+.00094	+.2650
0 55	2810	+.00092	+.00016	-.2659	-.00027	+.00088	+.5262
1 5	2799	+.00070	-.00644	-.1840	+.00650	+.00087	+.3567
1 15	2807	+.00082	-.00064	-.3374	+.00088	+.00081	+.4387
1 25	2818	+.00083	-.00696	-.2403	+.00675	+.00088	+.3963
1 35	2794	+.00078	+.00012	-.4076	-.00025	+.00081	+.2730
1 45	2801	+.00084	+.00056	-.3934	-.00058	+.00087	+.5946
1 55	2809	+.00078	+.00195	-.4333	-.00192	+.00084	+.5942
2 5	2795	+.00072	-.00063	-.3159	+.00062	+.00086	+.6023
2 15	2812	+.00092	-.00207	-.0426	+.00215	+.00104	+.3144
2 25	2802	+.00082	+.00601	-.3680	-.00604	+.00084	+.4091
2 35	2796	+.00087	+.00296	-.2841	-.00283	+.00081	+.4848
2 45	2803	+.00072	-.00165	-.2606	+.00171	+.00050	+.4613
2 55	2813	+.00097	-.00533	-.1284	+.00490	+.00078	+.4235
3 5	2819	+.00081	-.00468	-.0541	+.00466	+.00082	+.3639
3 15	2814	+.00079	-.00148	-.0968	+.00132	+.00082	+.3576
3 25	2820	+.00063	-.00495	-.0342	+.00491	+.00069	+.4489
3 35	2815	+.00082	-.00261	-.2081	+.00234	+.00088	+.3558
3 45	2816	+.00070	-.00385	-.8694	+.00370	+.00063	+.3769
3 55	2821	+.00085	+.00115	-.3926	-.00116	+.00079	+.3120
4 5	2822	+.00088	-.00246	-.2694	+.00238	+.00088	+.5889
4 15	2823	+.00077	-.00313	-.1530	+.00315	+.00080	+.4544
4 25	2824	+.00103	-.00487	-.0756	+.00493	+.00078	+.3858
4 35	2829	+.00082	+.00005	-.3696	-.00026	+.00086	+.1074
4 45	2825	+.00074	-.00465	-.1490	+.00450	+.00078	+.3712
4 55	2826	+.00090	+.00284	-.2331	-.00272	+.00066	+.7053
5 5	2827	+.00087	+.00077	-.1323	-.00081	+.00089	+.3976
5 15	2830	+.00093	+.00153	-.3992	-.00132	+.00085	+.3427
5 25	2828	+.00084	-.00696	-.4511	+.00694	+.00089	+.3852
5 35	3230	+.00079	+.00220	-.1494	-.00235	+.00057	+.4450
5 45	2831	+.00087	+.00287	-.3839	-.00312	+.00080	+.5185
5 55	2832	+.00076	+.00180	-.3788	-.00182	+.00082	+.5214
6 5	2833	+.00079	+.00011	-.4253	-.00017	+.00075	+.4312
6 15	2837	+.00078	+.00551	-.2044	-.00564	+.00078	+.3434
6 25	2834	+.00080	-.00084	-.4494	+.00078	+.00049	+.4234
6 35	2838	+.00084	-.00143	-.0545	+.00139	+.00071	+.2882
6 45	2839	+.00085	+.00178	-.4113	-.00192	+.00073	+.4873
6 55	2840	+.00085	+.00160	-.3740	-.00166	+.00081	+.4072
7 5	3231	+.00085	+.00169	-.3256	-.00173	+.00073	+.2724
7 15	2841	+.00098	-.00074	-.2163	+.00084	+.00070	+.5402
7 25	2842	+.00095	-.00543	-.2379	+.00527	+.00077	+.2824
7 35	2843	+.00069	+.00114	-.1443	-.00123	+.00069	+.5741
7 45	2844	+.00088	-.00100	-.2359	+.00087	+.00070	+.4235
7 55	2848	+.00079	+.00185	-.3356	-.00186	+.00084	+.3683
8 5	3239	+.00098	-.00150	-.1183	+.00142	+.00079	+.2981
8 15	2849	+.00092	-.00233	-.3538	+.00238	+.00087	+.2214
8 25	2850	+.00098	+.00656	-.5722	-.00684	+.00076	+.4566
8 35	3242	+.00080	+.00020	-.1239	-.00021	+.00100	+.2662
8 45	3244	+.00094	+.00136	-.1646	-.00169	+.00081	+.2814
8 55	3247	+.00084	-.00227	-.3366	+.00221	+.00085	+.1416
9 5	3250	+.00081	-.00016	-.3048	-.00008	+.00075	+.4042
9 15	3254	+.00081	+.00219	-.3116	-.00233	+.00074	+.2222
9 25	3252	+.00081	+.00103	-.4536	-.00121	+.00075	+.4486
9 35	3223	+.00104	-.00428	-.0698	+.00428	+.00065	+.3480
9 45	3334	+.00095	+.00354	-.2997	-.00372	+.00076	+.4360
9 55	3329	+.00080	-.00032	-.1135	+.00004	+.00068	+.3566
10 5	3324	+.00099	+.00241	+.1644	-.00252	+.00068	+.4166
10 15	3335	+.00108	-.00039	-.1874	+.00019	+.00094	+.2535
10 25	3325	+.00078	+.00218	-.2853	-.00228	+.00074	+.4520
10 35	3259	+.00085	-.00646	-.1883	+.00648	+.00074	+.4529
10 45	3345	+.00074	-.00234	-.0687	+.00228	+.00088	+.2954
10 55	3337	+.00065	-.00081	-.2671	+.00077	+.00092	+.3110
11 5	3326	+.00073	-.00673	-.1558	+.00679	+.00065	+.3357
11 15	3336	+.00078	+.00099	-.3652	-.00074	+.00092	+.3903
11 25	3328	+.00070	+.00062	-.3293	-.00068	+.00078	+.4474
11 35	3348	+.00070	+.00009	-.2794	-.00015	+.00077	+.4073
11 45	3353	+.00078	-.00104	-.2700	+.00102	+.00073	+.2923
11 55	3338	+.00090	-.00317	-.1744	+.00304	+.00071	+.3397
12 5	3359	+.00111	-.00686	-.1431	+.00684	+.00089	+.2261
12 15	3378	+.00054	-.00440	-.2421	+.00426	+.00088	+.3664
12 25	3343	+.00098	-.00531	-.0881	+.00551	+.00080	-.1193

TABLE III.—REVISED CONSTANTS FOR PLATES IN ZONE $+37^{\circ}$.

R.A.	Plate No.	A	B	C	D	E	F
h m							
12 35	3344	+.00077	-.00360	-.3110	+.00334	+.00066	-.0150
12 45	3355	+.00099	-.00361	-.4129	+.00324	+.00095	+.2745
12 55	3367	+.00095	-.00439	-.1564	+.00427	+.00073	+.0224
13 5	3368	+.00069	-.00576	-.1800	+.00573	+.00089	+.0345
13 15	3356	+.00085	-.00523	-.0593	+.00538	+.00082	+.0365
13 25	3369	+.00079	-.00411	-.0114	+.00401	+.00074	-.1474
13 35	3357	+.00072	-.00810	-.1817	+.00786	+.00074	+.4361
13 45	3363	+.00069	-.00186	-.2177	+.00196	+.00066	+.3079
13 55	3370	+.00078	-.00419	-.0927	+.00411	+.00063	-.1425
14 5	3402	+.00082	-.00302	-.4899	+.00377	+.00083	+.1278
14 15	3371	+.00074	-.00362	-.2917	+.00370	+.00081	+.2817
14 25	3391	+.00093	-.00469	-.1196	+.00480	+.00096	+.2207
14 35	3372	+.00075	-.00496	-.1303	+.00510	+.00059	+.0760
14 45	3401	+.00065	-.00621	+.0816	+.00609	+.00093	+.2250
14 55	3404	+.00075	-.00721	-.2047	+.00742	+.00071	+.4969
15 5	3405	+.00069	-.00806	-.1623	+.00812	+.00072	+.4186
15 15	3420	+.00059	-.00676	-.1287	+.00642	+.00077	+.4508
15 25	3406	+.00074	-.00697	-.1547	+.00668	+.00079	+.4519
15 35	3421	+.00086	-.00496	-.0818	+.00510	+.00110	+.4171
15 45	3430	+.00088	-.00706	-.3952	+.00672	+.00048	+.2040
15 55	3431	+.00106	-.01001	-.1618	+.00967	+.00076	+.2187
16 5	3422	+.00076	-.00651	-.1979	+.00632	+.00064	+.2036
16 15	3423	+.00080	-.00330	-.1407	+.00297	+.00078	+.3884
16 25	3408	+.00081	-.00431	-.2087	+.00416	+.00065	+.4478
16 35	3579	+.00084	-.00607	-.1997	+.00598	+.00097	+.4010
16 45	3562	+.00070	-.00363	-.3672	+.00372	+.00065	+.1954
16 55	3563	+.00076	-.00338	-.5043	+.00343	+.00077	+.0472
17 5	3574	+.00069	-.00628	-.3116	+.00593	+.00094	+.3418
17 15	3564	+.00077	-.00330	-.3179	+.00354	+.00072	+.4540
17 25	3575	+.00089	-.00785	-.4005	+.00748	+.00084	+.4169
17 35	3576	+.00065	-.00813	-.1726	+.00813	+.00077	+.2730
17 45	3565	+.00086	-.00237	-.4394	+.00242	+.00074	+.1948
17 55	3580	+.00086	-.00386	-.4621	+.00384	+.00088	+.2095
18 5	3444	+.00076	-.00796	-.3000	+.00811	+.00089	+.0832
18 15	3583	+.00072	-.00880	-.4652	+.00895	+.00068	+.1498
18 25	3591	+.00093	-.00900	-.0254	+.00907	+.00090	+.0959
18 35	3445	+.00064	-.00816	-.1076	+.00805	+.00067	+.3241
18 45	3588	+.00090	-.00924	-.2637	+.00930	+.00060	+.4568
18 55	3446	+.00083	-.01116	-.1367	+.01109	+.00086	+.3136
19 5	3449	+.00072	-.00867	-.2231	+.00878	+.00086	+.2486
19 15	3453	+.00088	-.00730	-.2170	+.00727	+.00082	+.2202
19 25	3443	+.00072	-.00885	-.3080	+.00896	+.00068	+.2190
19 35	3450	+.00083	-.00710	-.2709	+.00703	+.00072	+.3011
19 45	3454	+.00084	-.01030	-.2694	+.01033	+.00079	+.2669
19 55	3461	+.00070	-.01242	-.1942	+.01233	+.00075	+.1643
20 5	3447	+.00094	-.00598	-.3574	+.00596	+.00069	+.1798
20 15	3455	+.00083	-.00919	-.3184	+.00909	+.00092	+.0548
20 25	3462	+.00085	-.00463	-.3545	+.00448	+.00084	+.1878
20 35	3452	+.00044	-.00514	-.3236	+.00504	+.00070	+.2423
20 45	3448	+.00082	-.00474	-.3621	+.00479	+.00083	+.6432
20 55	3456	+.00070	-.00739	-.2386	+.00731	+.00072	+.2066
21 5	3182	+.00089	-.00870	-.1041	+.00874	+.00112	+.0841
21 15	3177	+.00077	-.01054	-.0620	+.01059	+.00085	+.1525
21 25	3183	+.00057	-.00097	-.3004	+.00092	+.00083	+.0921
21 35	3188	+.00079	-.00441	-.1066	+.00444	+.00101	-.0845
21 45	3189	+.00075	-.01192	-.1290	+.01199	+.00092	+.2509
21 55	3184	+.00063	-.00783	-.4628	+.00771	+.00092	-.0323
22 5	3190	+.00065	-.00557	-.1785	+.00544	+.00094	-.0118
22 15	3178	+.00080	-.00812	+.0021	+.00814	+.00102	-.0361
22 25	3185	+.00070	-.00459	-.0800	+.00461	+.00100	+.1816
22 35	3179	+.00093	-.01005	-.2327	+.00998	+.00089	+.0863
22 45	3275	+.00068	-.00663	-.3733	+.00680	+.00093	+.1110
22 55	3186	+.00079	-.01102	-.2110	+.01095	+.00071	+.0560
23 5	3191	+.00086	-.00324	-.2154	+.00308	+.00074	+.2823
23 15	3180	+.00108	-.00744	+.0663	+.00748	+.00091	+.0180
23 25	3192	+.00074	-.00350	-.2009	+.00380	+.00083	+.0728
23 35	3187	+.00073	-.00682	-.1400	+.00686	+.00084	+.2580
23 45	3181	+.00082	+.00273	-.4049	-.00249	+.00070	+.0779
23 55	3193	+.00090	-.00509	-.1592	+.00493	+.00058	+.3018

TABLE IV.—REVISED CONSTANTS FOR PLATES IN ZONE $+36^{\circ}$.

R.A.	Plate No.	A	B	C	D	E	F
h m							
0 0	3279	+.00051	-.00618	-.0358	+.00624	+.00104	+.0502
0 9	3290	+.00078	-.00406	-.2282	+.00403	+.00092	-.0090
0 18	3294	+.00086	-.00194	-.3528	+.00187	+.00081	+.3743
0 27	3291	+.00114	-.00202	-.1912	+.00177	+.00104	+.3724
0 36	3300	+.00080	-.00225	-.3130	+.00215	+.00088	+.2542
0 45	3292	+.00086	-.00095	-.2510	+.00119	+.00090	+.1050
0 54	3295	+.00106	-.00506	-.1876	+.00505	+.00100	+.2131
1 3	3286	+.00088	-.00144	-.4710	+.00139	+.00099	+.3518
1 12	3296	+.00093	-.00368	-.2766	+.00349	+.00087	+.4028
1 21	3501	+.00090	-.00530	-.0158	+.00516	+.00114	+.3190
1 30	3287	+.00076	-.00257	-.1334	+.00262	+.00077	+.4029
1 39	3293	+.00096	+.00254	-.1457	-.00255	+.00097	+.0782
1 48	3281	+.00051	-.00136	-.1549	+.00160	+.00080	+.3376
1 57	3297	+.00090	-.00237	-.3021	+.00220	+.00088	+.3364
2 6	3301	+.00080	-.00197	-.1693	+.00179	+.00092	+.4028
2 15	3298	+.00087	-.00062	-.0948	+.00062	+.00097	+.2680
2 24	3302	+.00109	-.00277	-.3521	+.00256	+.00077	+.2755
2 33	3303	+.00086	+.00121	-.3778	-.00119	+.00098	+.2959
2 42	3299	+.00087	-.00112	-.3466	+.00109	+.00101	+.3223
2 51	3304	+.00101	+.00039	-.3736	-.00048	+.00107	+.4726
3 0	3305	+.00094	+.00012	-.3714	-.00006	+.00090	+.4437
3 9	3312	+.00089	-.00140	-.1899	+.00140	+.00089	+.2092
3 18	3306	+.00095	+.00328	-.3366	-.00318	+.00098	+.2650
3 27	3313	+.00071	+.00194	-.3997	-.00211	+.00094	+.2827
3 36	3307	+.00077	-.00061	-.2506	+.00069	+.00098	+.1839
3 45	3314	+.00094	-.00189	-.3155	+.00188	+.00083	+.3178
3 54	3320	+.00078	+.00040	-.4782	-.00048	+.00097	+.3127
4 3	3315	+.00074	+.00384	-.4639	-.00394	+.00088	+.3641
4 12	3316	+.00095	+.00283	-.3264	-.00282	+.00092	+.4585
4 21	3309	+.00094	-.00312	-.2206	+.00299	+.00089	+.3300
4 30	3317	+.00074	+.00179	-.2091	-.00210	+.00084	+.2606
4 39	3310	+.00083	+.00269	-.3998	-.00292	+.00085	+.4937
4 48	3322	+.00082	-.00229	-.2081	+.00199	+.00088	+.3162
4 57	3311	+.00099	+.00048	-.2786	-.00055	+.00104	+.3847
5 6	3233	+.00091	-.00089	-.3558	+.00075	+.00100	+.4415
5 15	3234	+.00097	+.00350	-.2160	-.00368	+.00095	+.3462
5 24	3235	+.00100	-.00597	-.1099	+.00581	+.00098	+.3495
5 33	3236	+.00076	+.00462	-.3585	-.00464	+.00089	+.3667
5 42	3237	+.00093	-.00183	-.1950	+.00193	+.00080	+.4757
5 51	3238	+.00073	+.00231	-.1822	-.00213	+.00098	+.4650
6 0	2522	+.00096	-.00188	-.1553	+.00178	+.00100	+.4511
6 9	2524	+.00096	-.00189	-.1956	+.00168	+.00102	+.3890
6 18	2528	+.00089	+.00055	-.2985	-.00056	+.00100	+.4334
6 27	2532	+.00093	-.00187	-.1048	+.00184	+.00103	+.3027
6 36	2523	+.00094	+.00153	-.2459	-.00172	+.00105	+.4113
6 45	2525	+.00099	+.00374	-.3334	-.00366	+.00104	+.3863
6 54	2533	+.00083	+.00452	-.3682	-.00449	+.00086	+.5430
7 3	2534	+.00088	+.00092	-.1713	-.00077	+.00080	+.3311
7 12	2526	+.00092	+.00642	-.5008	-.00642	+.00104	+.4933
7 21	2535	+.00077	+.00385	-.1976	-.00390	+.00085	+.5234
7 30	2530	+.00082	+.00057	-.3106	-.00076	+.00100	+.4455
7 39	2536	+.00088	+.0022	-.2463	-.00020	+.00102	+.3240
7 48	2527	+.00076	+.00237	-.3197	-.00231	+.00089	+.4505
7 57	2531	+.00100	+.00178	-.2956	-.00187	+.00097	+.3612
8 6	2537	+.00095	+.00378	-.3948	-.00378	+.00081	+.3463
8 15	3240	+.00089	+.00020	-.1662	-.00028	+.00100	+.4036
8 24	3241	+.00084	+.00298	-.3461	-.00298	+.00089	+.5440
8 33	3243	+.00094	-.00003	-.3416	-.00036	+.00084	+.2958
8 42	3245	+.00088	-.00643	-.3033	+.00610	+.00108	+.1437
8 51	3246	+.00097	-.00374	-.2949	+.00396	+.00090	+.3496
9 0	3333	+.00083	-.00049	-.2018	+.00049	+.00086	+.4613
9 9	3251	+.00082	+.00164	-.4616	-.00149	+.00085	+.2760
9 18	3255	+.00099	-.00195	-.1899	+.00194	+.00094	+.2647
9 27	3248	+.00076	+.00135	-.2913	-.00156	+.00078	+.3392
9 36	3702	+.00083	-.00071	-.3266	+.00080	+.00069	+.2870

TABLE IV.—REVISED CONSTANTS FOR PLATES IN ZONE +36°.

R.A.	Plate No.	A	B	C	D	E	F
h m							
9 45	3253	+.00083	-.00117	-.1909	+.00101	+.00079	+.2384
9 54	3660	+.00072	-.00139	-.2226	+.00105	+.00106	+.2641
10 3	2560	+.00090	-.00111	-.3285	+.00021	+.00070	+.4220
10 12	2568	+.00078	-.00333	-.2622	+.00327	+.00079	+.3578
10 21	3704	+.00083	+.00084	-.0850	-.00081	+.00100	+.3652
10 30	3332	+.00081	+.00047	-.2468	-.00062	+.00098	+.2568
10 39	3783	+.00083	-.00118	-.2361	+.00110	+.00087	-.0285
10 48	3340	+.00068	-.00113	-.2926	+.00111	+.00066	+.1397
10 57	2569	+.00082	-.00420	-.1447	+.00405	+.00074	+.4738
11 6	3346	+.00083	-.00424	-.3808	+.00414	+.00086	+.2070
11 15	3341	+.00085	-.00077	-.1762	+.00074	+.00074	-.0898
11 24	3347	+.00074	-.00100	-.3438	+.00079	+.00082	+.3793
11 33	3358	+.00047	-.00119	-.1981	+.00124	+.00085	+.3706
11 42	3342	+.00076	-.00168	-.3525	+.00157	+.00078	+.2417
11 51	3349	+.00100	-.00736	-.1275	+.00739	+.00102	+.3207
12 0	3354	+.00073	-.00275	-.1295	+.00239	+.00079	+.5056
12 9	3707	+.00105	-.00436	-.1294	+.00434	+.00070	+.5463
12 18	3360	+.00079	-.00271	-.2950	+.00265	+.00068	+.3666
12 27	3350	+.00094	-.00294	-.1207	+.00287	+.00083	+.5132
12 36	3351	+.00086	-.00402	-.1366	+.00413	+.00085	+.4823
12 45	3361	+.00077	-.00449	-.2127	+.00451	+.00065	+.4619
12 54	3352	+.00094	-.00226	-.3189	+.00208	+.00081	+.3957
13 3	3708	+.00094	-.00410	-.0892	+.00399	+.00101	+.3168
13 12	3379	+.00100	-.00796	-.0905	+.00772	+.00065	+.3266
13 21	3380	+.00064	-.00458	-.4242	+.00454	+.00075	-.0069
13 30	3389	+.00070	-.00588	+.9127	+.00605	+.00073	+.5391
13 39	3381	+.00080	-.00398	-.4027	+.00397	+.00068	+.1894
13 48	3388	+.00085	-.00562	-.3220	+.00541	+.00088	+.3172
13 57	3390	+.00072	-.00609	-.0447	+.00612	+.00086	+.2467
14 6	3400	+.00077	-.00635	-.3165	+.00605	+.00091	+.4135
14 15	3382	+.00098	-.00262	-.2560	+.00238	+.00075	+.1313
14 24	3403	+.00073	-.00644	-.1319	+.00606	+.00069	+.3508
14 33	3409	+.00075	-.01034	-.0078	+.01044	+.00079	+.3048
14 42	3383	+.00068	-.00567	-.3582	+.00572	+.00062	+.2686
14 51	3410	+.00077	-.00872	-.1890	+.00864	+.00071	+.2996
15 0	3411	+.00095	-.00496	-.2291	+.00491	+.00083	+.3320
15 9	3419	+.00062	-.00944	-.0719	+.00899	+.00071	+.3088
15 18	3428	+.00077	-.00588	-.7871	+.00599	+.00077	+.3458
15 27	3412	+.00069	-.00515	-.1310	+.00509	+.00082	+.1993
15 36	3429	+.00091	-.00467	-.3405	+.00467	+.00078	+.3921
15 45	3413	+.00098	-.00388	-.2557	+.00380	+.00127	+.3300
15 54	3578	+.00081	-.00310	-.5347	+.00302	+.00081	+.0482
16 3	3414	+.00081	-.00530	-.3495	+.00522	+.00098	+.3827
16 12	3559	+.00071	-.00395	-.3835	+.00381	+.00073	+.3509
16 21	3415	+.00082	-.00804	-.1582	+.00764	+.00063	+.3322
16 30	3432	+.00093	-.00530	-.3378	+.00511	+.00093	+.3629
16 39	3561	+.00062	-.00846	-.2891	+.00841	+.00086	+.2102
16 48	3566	+.00082	-.00550	-.3307	+.00515	+.00076	+.3493
16 57	3570	+.00067	-.00620	-.4574	+.00585	+.00086	+.3369
17 6	3433	+.00072	-.00727	-.0906	+.00697	+.00075	+.3254
17 15	3567	+.00090	-.00815	-.5292	+.00832	+.00085	+.1576
17 24	3571	+.00088	-.00771	-.3687	+.00768	+.00083	+.1739
17 33	3568	+.00081	-.00699	-.1911	+.00686	+.00076	+.3769
17 42	3572	+.00083	-.00666	-.2694	+.00659	+.00074	+.2317
17 51	3569	+.00070	-.01143	-.3006	+.01128	+.00073	+.3911
18 0	3573	+.00054	-.00543	-.2523	+.00534	+.00070	+.2698
18 9	3581	+.00091	-.00762	-.1469	+.00785	+.00084	+.4037
18 18	3913	+.00088	-.00607	-.2174	+.00622	+.00082	+.0768
18 27	3592	+.00079	-.00820	-.1540	+.00834	+.00094	+.2704
18 36	3594	+.00097	-.00862	-.1535	+.00857	+.00096	+.0698
18 45	3593	+.00102	-.01162	-.1708	+.01188	+.00097	+.3258
18 54	3589	+.00072	-.00407	-.4016	+.00411	+.00082	+.4464
19 3	3459	+.00066	-.00972	-.4622	+.00973	+.00095	-.0310
19 12	3463	+.00081	-.00668	-.2085	+.00640	+.00086	+.2778
19 21	3468	+.00080	-.01049	-.1753	+.01051	+.00115	-.0637

TABLE IV.—REVISED CONSTANTS FOR PLATES IN ZONE $+36^{\circ}$.

R.A.	Plate No.	A	B	C	D	E	F
h m							
19 30	3460	+.00056	-.00889	-.1962	+.00870	+.00076	+.2847
19 39	3474	+.00085	-.00990	-.3370	+.00986	+.00093	+.0125
19 48	3464	+.00107	-.00674	-.1884	+.00698	+.00115	+.2066
19 57	3469	+.00076	-.00848	-.2560	+.00845	+.00099	+.3921
20 6	3475	+.00084	-.00956	-.1374	+.00956	+.00109	+.1487
20 15	3465	+.00084	-.00421	-.1336	+.00422	+.00101	+.4326
20 24	3470	+.00089	-.00847	-.2049	+.00849	+.00106	+.2489
20 33	3477	+.00076	-.00887	-.5124	+.00881	+.00094	+.0182
20 42	3466	+.00087	-.00211	-.2870	+.00207	+.00093	+.2622
20 51	3471	+.00085	-.00808	-.4615	+.00804	+.00092	+.0648
21 0	3484	+.00093	-.00307	-.3011	+.00303	+.00104	+.3024
21 9	3467	+.00088	-.00764	-.1393	+.00758	+.00116	+.1714
21 18	3472	+.00092	-.00385	-.1349	+.00413	+.00080	+.1657
21 27	3482	+.00072	-.00544	-.5996	+.00538	+.00085	+.1151
21 36	3457	+.00091	-.00756	-.3368	+.00773	+.00093	+.1769
21 45	3473	+.00071	-.00312	-.1165	+.00296	+.00092	+.2216
21 54	3458	+.00085	-.00636	-.1158	+.00632	+.00083	+.2617
22 3	3273	+.00072	-.00550	-.2022	+.00552	+.00082	+.0573
22 12	3282	+.00085	-.00709	-.2119	+.00707	+.00099	+.2647
22 21	3274	+.00077	-.00884	-.0798	+.00890	+.00090	+.2402
22 30	3283	+.00085	-.00823	-.0157	+.00813	+.00099	+.2338
22 39	3288	+.00104	-.00612	-.1157	+.00618	+.00091	+.2598
22 48	3277	+.00079	-.00345	-.2829	+.00346	+.00079	+.1176
22 57	3289	+.00093	-.00501	-.1536	+.00488	+.00115	+.1664
23 6	3195	+.00094	-.00704	-.1769	+.00696	+.00092	+.5987
23 15	3196	+.00106	-.00525	-.2603	+.00505	+.00074	+.2862
23 24	3284	+.00076	-.00881	-.1458	+.00861	+.00099	+.3847
23 33	3276	+.00077	-.00166	-.2718	+.00131	+.00087	+.8853
23 42	3278	+.00064	-.00385	-.1862	+.00374	+.00083	+.1036
23 51	3285	+.00078	-.00236	-.2448	+.00251	+.00098	+.4027

TABLE V.—DIFFERENCES (HYDERABAD—PRAGER) OF OVER 1".8 IN EITHER CO-ORDINATE 15

Unit of a reseau interval

Prager			Hyderabad			Prager			Hyderabad		
No.	Mag.	Epoch	Epoch	$\Delta\xi$	$\Delta\eta$	No.	Mag.	Epoch	Epoch	$\Delta\xi$	$\Delta\eta$
96	9.23	20.2	30.9	- 6	- 3	5174	9.45	19.8	31.8	- 6	- 1
153	7.94	19.7	33.0	0	+ 8	5191	9.67	19.8	33.3	- 6	+ 1
242	7.75	20.3	28.9	+ 8	- 14	5262	8.16	20.4	33.2	+ 6	+ 2
722	5.97	20.8	30.9	+ 7	+ 1	5331	10.12	19.8	33.2	0	- 6
854	9.02	20.8	29.5	+ 6	- 8	5332	9.06	19.7	28.4	+ 2	- 7
920	8.55	20.4	33.0	+ 9	- 7	5335	8.70	19.7	33.3	+ 7	- 3
1136	8.08	20.0	33.0	+ 7	- 5	5384	9.85	19.8	33.2	- 6	+ 2
1331	7.8	20.4	33.0	+ 6	- 7	5397	9.33	19.4	33.2	0	- 8
1512	8.58	20.4	33.0	+ 77	- 58	5409	9.68	19.4	30.8	- 1	- 6
1546	5.71	20.9	29.6	+ 3	- 6	5425	5.79	20.0	33.2	- 7	+ 4
1595	8.43	20.1	31.0	- 1	- 7	5481	5.8	19.8	28.4	+ 1	+ 16
1625	9.24	20.5	29.6	+ 3	- 6	5520	8.96	19.8	30.3	- 6	- 12
1773	9.34	20.1	31.5	+ 2	- 6	5521	9.31	19.7	33.3	+ 2	- 9
2468	9.35	21.0	29.5	- 1	- 8	5581	7.19	19.7	33.3	- 10	0
2523	8.82	20.1	28.2	+ 2	- 6	5749	9.56	19.4	31.8	+ 2	- 9
2631	8.94	20.6	29.1	0	- 6	5793	5.09	19.4	33.3	+ 5	- 21
2880	6.91	21.1	29.0	+ 1	- 17	5825	8.82	19.4	34.3	- 13	+ 6
3038	6.85	21.1	28.2	+ 1	- 10	5882	8.13	20.2	33.3	- 4	- 9
3180	6.29	21.1	31.2	- 8	+ 2	5884	8.72	19.4	31.8	+ 8	- 22
3312	8.36	20.2	32.2	- 5	- 8	5920	9.58	19.5	33.3	+ 2	+ 7
3344	7.80	21.1	32.5	- 6	+ 1	5924	8.18	19.5	30.3	- 3	+ 7
3478	8.93	20.6	32.2	- 9	+ 1	6047	9.85	19.4	33.3	- 8	+ 4
3509	9.56	20.6	32.2	+ 6	- 2	6078	9.35	19.4	33.8	+ 6	0
3558	5.70	20.7	32.2	- 18	- 7	6213	8.96	19.4	34.7	- 20	+ 9
3600	6.18	20.7	35.3	+ 6	- 6	6339	9.4	19.4	34.3	+ 1	+ 6
3653	8.36	20.6	32.2	+ 12	- 4	6375	9.52	19.5	30.4	- 6	- 2
3706	9.69	20.6	34.2	+ 2	- 6	6408	9.66	19.5	30.4	- 6	+ 2
4066	5.53	20.6	28.3	0	+ 8	6466	8.5	19.4	33.8	- 25	- 38
4110	8.31	20.7	29.7	- 6	+ 2	6519	9.68	19.5	30.3	- 5	- 13
4141	9.52	20.2	33.2	+ 4	- 22	6529	8.11	19.8	30.3	+ 3	+ 7
4226	8.92	20.7	28.3	+ 7	- 3	6569	9.30	19.8	33.8	- 4	- 7
4239	5.66	20.3	28.3	- 7	+ 8	6653	8.32	19.5	34.3	- 6	+ 5
4286	8.5	20.3	33.2	- 8	- 2	6658	7.12	19.5	34.3	+ 2	- 6
4302	10.16	20.7	28.3	- 3	- 6	6812	9.1	19.6	33.8	- 2	+ 6
4354	10.37	21.1	30.3	- 6	+ 3	7175	8.64	19.7	33.8	+ 2	+ 6
4440	9.86	19.8	33.2	+ 7	- 2	7298	8.26	19.7	29.3	- 8	0
4498	8.43	20.3	28.3	+ 6	+ 2	7372	5.78	20.0	33.9	- 13	- 23
4514	9.50	19.8	34.3	- 8	- 2	7422	5.25	19.7	33.9	+ 4	+ 6
4568	8.3	20.3	29.3	- 21	+ 5	7669	9.21	19.7	33.9	+ 8	0
4577	8.52	20.6	30.6	+ 6	- 2	7984	9.56	19.8	33.9	- 3	- 11
4641	9.59	20.4	33.2	- 8	+ 5	8029	9.28	20.1	30.9	+ 7	+ 2
4663	10.20	19.9	30.2	+ 4	- 6	8156	9.3	19.8	33.0	+ 8	0
4688	6.3	19.9	29.3	- 10	+ 12	8554	9.36	20.0	28.9	+ 6	- 1
4868	8.28	19.8	33.2	+ 14	- 7	8573	10.15	19.7	32.4	- 6	+ 2
4883	9.12	19.9	33.2	+ 6	0	8633	10.17	20.4	28.9	+ 6	+ 2
4897	8.49	19.9	31.7	+ 6	- 1	8666	6.53	20.3	32.4	+ 12	+ 4
4939	10.33	19.8	33.2	+ 10	0	8689	7.50	19.7	32.9	+ 6	+ 2
4971	9.52	19.9	29.3	0	- 6	8718	9.48	19.8	32.9	+ 10	- 5
5007	9.50	19.8	33.2	- 6	+ 1						
5027	10.5	19.8	29.3	- 6	- 1						
5033	10.33	19.9	29.3	+ 8	+ 2						
5073	9.0	19.8	33.2	- 6	0						
5104	9.12	19.8	32.5	+ 1	- 6						
5107	8.48	19.8	33.2	- 8	- 2						
5133	8.94	19.9	28.4	- 2	+ 6						

NOTES.

No.	Star	Proper Motion		Remarks
		R.A.	Dec.	
722	56 Andr	+0°181	+0°008	Double ADS 1534
1512	..	+2°134	-1°348	N.G.C.
1546	50 Pers	+0°168	-0°200	Binary 7 ^m .3-9 ^m .0
3180	32 Lync	-0°141	-0°006	
3558	11 L Min	-0°705	-0°251	Binary ADS 7441
3600	13 L Min	-0°015	-0°055	
4066	49 U Maj	-0°073	-0°026	
4239	57 U Maj	-0°051	+0°009	Binary ADS 8175
4568	..	-0°76	+0°05	
4688	10 C Ven	-0°355	+0°132	
5425	..	-0°213	+0°087	
5481	40 Boot	-0°032	+0°031	
5520	..	-0°105	-0°33	
5793	11 Cor Bor	-0°012	-0°356	
5825	..	-0°225	+0°07	Double ADS 9856
7372	27 Cygn	-0°232	-0°438	
7422	29 Cygn	+0°064	+0°068	
8666	..	+0°230	+0°026	